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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,824	07/10/2003	Hans-Peter Manner	SMB-PT082 (P 03 305 M US)	2688
3624 7590 05/03/2007 VOLPE AND KOENIG, P.C. UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			EXAMINER EWALD, MARIA VERONICA	
			ART UNIT 1722	PAPER NUMBER
			MAIL DATE 05/03/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/616,824

Applicant(s)

MANNER, HANS-PETER

Examiner

Maria Veronica D. Ewald

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/29/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

13. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 29, 2007 has been entered.

Claim Rejections - 35 USC § 112

14. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 – 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 1, as written, states "Injection molding nozzle for plastic comprising: at least two outlet openings disposed opposite one another relative to a center axis..." As written, structurally, claim 1 is unclear. If there are more than two outlet openings, which is a possibility because Applicant has claimed *at least two outlet openings, which leads*

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one of ordinary skill to interpret this to mean there can be more than two, it would be impossible for more than two openings to be opposite one another relative a center axis. For example, if three openings are present and are equidistant from each other relative a center axis, the openings would be 120° apart and thus, *not opposite one another relative to the center axis*. If there are four openings, at most, only two of the four openings can be *opposite one another relative a center axis*. *All four openings cannot be opposite one another relative a center axis*. Applicant is requested to clarify or amend the claim appropriately, within the confines of the specification.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 7 and 9 – 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guenther (DE 0447573 A1) in view of Manner (U.S. 5,368,470). Guenther teaches an injection nozzle (item 26 – figure 1) for plastic comprising at least two outlet openings disposed opposite one another relative to a center axis (item 24 – figure 1; page 10) in an end region of the injection molding nozzle, directed towards different sides of the nozzle (item 24 – figure 1), for discharging to different sprue openings (item 46 – figure 1), each of the outlet openings including a needle closure with a closure needle adjustable in a direction of one of the outlet openings (item 50 –

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figure 3; page 11), wherein the feed channel comprises a separate feed channel for the plastic for each of the outlet openings provided with a closure needle and the feed channels are arranged outside a middle area of the injection molding nozzle (item 24 – figure 1); wherein the feed channels for the plastic enter the outlet openings before mouths thereof, near ends of the individual closure needles, wherein there is a feed channel for transporting plastic to the outlet openings (item 22 – figure 1).

Furthermore, Guenther teaches the outlet openings and the closure needles displaceable into them are arranged approximately radially and generally in one plane extending perpendicularly to a longitudinal mid-axis of the injection molding nozzle (figure 1); wherein the closure needles of the outlet openings have a common drive for displacement into the closing position (page 10 – 11); wherein there is a housing that is divided perpendicularly to the feed channels for the plastic and has a thermal compensation gap in the region of the division (item 34 – figure 1; page 9); wherein the thermal compensation gap on the housing of the injection molding nozzle is sealed by an overlap at least in a region of the feed channels for the plastic (item 34, 36 – figure 1; page 9); wherein the overlap for sealing the thermal compensation gap in the region of the feed channels is formed by a sliding sleeve or a respective sliding sleeve arranged on an inside or outside of the feed channel (page 9).

The reference also teaches an injection nozzle for plastic comprising first and second openings in an end region of the injection molding nozzle directed radially outwardly from a center axis of the nozzle and toward opposite sides of the nozzle for discharging to different sprue openings (item 46 – figure 1); first and second closure

needles; the first closure needle positioned in the first opening and the second closure needle positioned in the second opening (item 50 – figures 1 and 3), a common drive element for displacing the first and second closure needles in a closing direction, the drive element being a displacement member movable between rear ends of the closure needles and slideably connected to an end of each of the first and second closure needles (item 50 – figure 1; pages 9 – 10); and a feed channel for transporting plastic to the outlet openings (item 22 – figure 1).

Guenther also teaches an injection molding nozzle with first and second openings in an end region of the injection molding nozzle for discharging to different sprue openings disposed substantially opposite one another relative a center axis (figure 1); first and second closure needles (item 50 – figures 1 and 3; pages 9 – 10), the first closure needle positioned in the first opening and the second closure needle positioned in the second opening (pages 9 – 10); a common drive element for displacing the first and second closure needles in a closing direction and a feed channel for transporting plastic to the outlet openings (item 22 – figure 1).

However, Guenther is silent with respect to the specific type of drive element to reciprocate the stopper needles in both the main and side channels.

In a method to form plastic products via injection molding, Manner teaches the use of a nozzle assembly comprised of multiple pin closures (figure 1). Each of the nozzle channels shown (item 5 – figure 1) has a pin (item 4 – figure 1), which reciprocates back and forth to close the openings to the mold cavities. The pins are reciprocated via a piston rod (item 12 – figure 1). The piston rod has on its end a screw

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closure (item 24 – figure 1). Such a structure reads upon the Applicant's claim that the drive element includes a cross section that is at least one of a cone, conical, tapered, a cam disk and an eccentric disk, wherein the closure needles in a closing direction, have a cross section enlargement or a shoulder located before the feed channel entry for the plastic as an action surface for injection molding pressure for opening the closure needle, and the drive acting in the closing direction can be disconnected and/or overcome during opening of the respective closure needle; wherein compression springs and/or displacement means engaging mechanically on the closure needles are provided for displacing the closure needles into the closing position and are located at ends remote from the outlet opening; wherein the means for displacing a conically-shaped or cone displacement member, a push/pull rod displaceable in an axial direction is located centrally within the injection molding nozzle, or for rotating a cam disk or eccentric disk, a rotary rod is provided centrally in the injection molding nozzle; wherein a drive element engaging the closure needles is coupled and connected with the closure needles such that one movement serves for closing and an opposite movement serves for pulling back the closure needles into an opening position; wherein a rod in a center of the nozzle housing for a common drive of the closure needles is provided or coupled with a rotary or axial drive; wherein the outlet openings and the closure needles displaceable therein are arranged in bushings inserted into a housing of the injection molding nozzle; wherein there is at least one retaining cap removably threadably secured to an outside of the injection molding nozzle which retains at least one of the closure needles, the retaining cap including a mouth of the outlet opening; wherein

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there is a bushing which receives the closure needles in the nozzle body, and at least one of the closure needles includes a shoulder or a cross section enlargement which limits movement of the at least one of the closure needles in an axial direction.

Thus, it would have been obvious at the time of the Applicant's invention to configure the apparatus of Guenther with the piston rod and cap configuration of Manner for the purpose of displacing the closure pins to either allow or deter the plastic melt to the mold cavities.

Response to Arguments

16. Applicant's arguments with respect to the prior art reference of Babin (U.S. 6,162,044), see pages 8 – 9, filed January 29, 2007, have been fully considered and are persuasive. Therefore, the rejection(s) of claims 1 – 3, 5 – 7, 9 – 10 and 14 – 22 have been withdrawn. Applicant argued that Babin did not teach outlet openings disposed opposite one another relative a center axis with a common drive element movable between rear ends of the closure needles. Examiner agrees and thus, the rejection has been withdrawn.

With respect to the reference of Guenther, Examiner agrees that Guenther is silent with respect to the type of drive element used to reciprocate the stopper needles; however, it is inherent that the apparatus of Guenther have a drive element to control the stopper needles as such. It is known to one of ordinary skill in the art of injection molding that a nozzle assembly with a pin closure is reciprocated by some type of drive element. Typically, the drive element is a piston with a threaded or screw cap on its end,

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as shown by Manner (U.S. 5,368,470). The piston is conical in shape with a slight curved-in portion where it meets the closure pin. Such a closure mechanism can be configured on the apparatus of Guenther. Furthermore, though Guenther does not explicitly state that there is a common drive element reciprocating the stopper needle in both the main and side channels, that is an obvious configuration since the drive element would be placed on the end of the main stopper needle to displace or reciprocate needles in the main and side channels at the same time.

Furthermore, Applicant has argued that Guenther does not teach a drive element that is a cam or eccentric disk; however, a cam disk is merely a circular disk connected to a shaft or follower to translate motion, either rotational or reciprocating to another machine part. The cam disk is thus, functionally identical to the piston rod and threaded cam arrangement of Manner and offers no additional advantage over the piston arrangement typically seen with an injection molding nozzle assembly.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Veronica D. Ewald whose telephone number is 571-272-8519. The examiner can normally be reached on M-F, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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